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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/782,852

02/23/2004

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EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/782,852	Applicant(s) GOTO, TAKAHIRO	
	Examiner ANCA EOFF	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,10,13,14 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,10,13,14 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/27/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The foreign priority document JP 2003-44090, filed on February 21, 2003 was received and acknowledged. However, in order to benefit of the earlier filing date, a certified English translation is required.
2. Claims 1, 10, 13-14 and 16-24 are pending in the application. Claims 2-9 and 11-12 and 15 are canceled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 10, 13-14, 16-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoshima et al. (EP 1 235 107) in view of Aoshima et al. (US Patent 5,741,619) and in further view of Iwamoto et al. (US Patent 5,866,298).

With regard to claim 1, Aoshima et al. disclose a photopolymerizable composition used as a recording layer in a negative planographic printing plate precursor (abstract). As a support /substrate for the recording layer of the planographic printing plate precursor, polyester films and aluminum plates are preferable (par.0066)

The photopolymerizable composition comprises:

- a polymerizable compound that has at least one radical-polymerizable ethylenically unsaturated double bond in a molecule (abstract);
- a radical polymerization initiator (abstract), which can be a sulfonium salt (see formula V in par.0026);
- a binder polymer (abstract), which is a polymer having the weight average molecular weight of 5,000 or more, preferably 10,000 to 300,000 (par.0039), and
- a compound generating heat by infrared exposure (abstract), referred to as "infrared absorbent" in par.0043.

Aoshima et al. disclose that the binder polymer may be a polymer having a carboxylic acid group in the side chain thereof (par.0035) but fail to disclose a polymeric binder comprising an unit represented by the general formula (i) of the instant application.

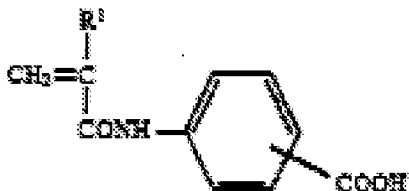
Aoshima et al. (US Patent 5,741,619) disclose a negative-working image-recording material comprising a substance that absorbs light and generates heat (column 4, lines 22-23), a binder resin, which may be an acrylic resin (column 4, lines 35-42), diazonium compounds as photoinitiators (column 8, lines 50-61) and polymerizable monomers (column 12, lines 16-27). The negative-working image-recording material may be used for photosensitive lithographic plates (column 13, lines 45-46).

An acrylic resin is preferred as a binder from the standpoint of developability (column 4, lines 41-42), and such resin may comprise units such as the units of formula (I)-(II):

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(I) (column 9, lines 55-60), wherein R^1 may be hydrogen or a methyl group (column 11, lines 14-15), which is equivalent to the monomer of general formula (i) of the instant application, wherein R^1 may be hydrogen or a methyl group, A is a $-NH-$ group, R^2 is a $-(CH_2)_2-$ group and $n=1$.



(II) (column 10, lines 15-2), wherein R^1 may be hydrogen or a methyl group (column 11, lines 14-15), which is equivalent to the monomer of general formula (i) of the instant application, wherein R^1 may be hydrogen or a methyl group, A is a $-NH-$ group, R^2 is a phenyl group (linking group composed of carbon and hydrogen atoms, which is not an alicyclic group) and $n=1$.

Aoshima et al. disclose that the binder has a weight-average molecular weight preferably between 10,000 to 250,000 (column 11, lines 60-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the acrylic binder comprising units (I) or (II), as disclosed by Aoshima et al. (US Patent 5,741,619) as polymeric binder in the composition of Aoshima et al., from the standpoint of developability (Aoshima et al., US Patent 5,741,619- column 4, lines 41-42)

However, the Aoshima references do not teach that the photopolymerizable composition used in a negative planographic printing plate precursor comprises a compound having a weight average molecular weight of 3,000 or less and having at least one carboxylic acid group, such as a trimellitic acid derivative, a pyromellitic acid derivative, a succinic acid derivative or a glycine derivative as required by the instant application.

Iwamoto et al. disclose a radiation sensitive composition comprising a binder polymer, a polyfunctional monomer and a photopolymerization initiator (abstract). The binder polymer of Iwamoto et al. is preferably a copolymer made from a monomer mixture which contains an ethylenically unsaturated monomer having at least one carboxyl group (column 5, lines 4-7), with specific examples given in column 6, lines 20-34. The radiation sensitive composition of Iwamoto et al. acts as a negative resist, since a developer is used to remove the part of the coated film upon which no light has been shone (column 15, lines 19-21).

The preferred polyfunctional monomer are polyacrylate or polymethacrylate (column 7, lines 18-40), with more than one ethylenically unsaturated double bonds in the molecule.

Iwamoto et al. further disclose that an organic acid may be added to the radiation sensitive composition, for improving the solubility of the coating formed by the composition in an alkaline developing solution and for reducing residual insoluble matters after the development treatment, when the binder is a carboxyl group-containing polymer (column 13, line 64-column 14, line 4).

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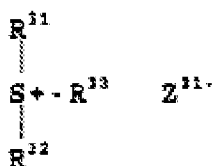
The acids that can be added to the photosensitive composition can be phenyl-group containing carboxylic acids, such as trimellitic acid (molecular weight 210.15 g/mol) or pyromellitic acid (molecular weight 254.15 g/mol) (column 14, lines 30-31) or aliphatic dicarboxylic acids, such as succinic acid (molecular weight 118.09 g/mol) (column 14, lines 12-13).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include organic acids such as pyromellitic acid, trimellitic acid or succinic acid as disclosed by Iwamoto et al. in the photopolymerizable composition of Aoshima et al., in order to improve the solubility of the coating in an alkaline developing solution and to reduce the residual insoluble matters after the development process (Iwamoto et al., column 13, line 64-column 14, line 4).

With regard to claim 10, Aoshima et al. further disclose that the photopolymerizable composition used as a recording layer in a planographic printing plate is protected by a protective layer that blocks oxygen (par.0013).

With regard to claims 13, Iwamoto et al. further disclose that the organic acid is comprised in the photosensitive composition in an amount from 0.01 to 10 wt.% (column 14, lines 44-47).

With regard to claim 14, Aoshima et al. disclose that the radical polymerization initiator can be a sulfonium salt represented by the formula (1)



(1) (formula V in par.0026), wherein R_{31} , R_{32} , R_{33} may be the same or different and represent an optionally substituted hydrocarbon group having 20 or less carbon atoms and Z^{31-} represents a counterion selected from the group consisting on a halogen ion, a perchlorate ion, a tetrafluoroborate ion, a hexafluorophosphate ion and a sulfonate ion (par.0027 and par.0029).

With regard to claims 16-17, Aoshima et al. further disclose that the compound that generates heat by infrared exposure (also referred to as an “infrared absorbent”) is a dye or pigment having a maximum absorption wavelength of 760 nm to 1,200 nm (par.0043), such as cyanine dyes, squarylium dyes or pyrilium salts (par.0045).

With regard to claim 18, Aoshima et al. further disclose that the amount (solid content) of the recording layer that has been coated on the support and dried is preferably between 0.5 to 5.0 g/m² (par.0064).

With regard to claim 20, Aoshima et al. further disclose that the planographic printing plate precursor is exposed to a solid state laser or a semiconductor laser that radiate infrared rays having a wavelength of 760 nm to 1,200 nm (par.0080).

With regard to claim 21, Aoshima et al. further disclose a photopolymerizable composition comprising a binder polymer having a molecular weight of 130,000 (par.0096).

With regard to claim 22, Aoshima et al. further disclose that the aluminum substrate is subjected to a roughening treatment (par.0068, par.0071).

With regard to claim 23, Aoshima et al. further disclose that the aluminum substrate is subjected to anodizing treatment (par.0073-0074).

With regard to claim 24, Aoshima et al. further disclose that an oxide film is usually formed on the support by anodizing the surface after the foregoing treatment to improve the water retention (par.0073). This is equivalent to the hydrophilicity-confering treatment of the instant application.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoshima et al. (EP 1 235 107) in view of Aoshima et al. (US Patent 5,741,619) and Iwamoto et al. (US Patent 5,866,298) as applied to claim 10 above and in further view of Kunita (US Patent 6,476,092).

With regard to claims 10 and 19, Aoshima et al. disclose that the photopolymerizable composition layer is covered with a protective layer as applied to claim 10 but fail to disclose that the main component of the protective layer is polyvinyl alcohol.

Kunita discloses a lithographic printing plate having a protective layer provided on the photopolymerizable composition. The protective layer prevents basic substances and the like present in the air, which inhibit the image-formation reaction caused in the photosensitive layer upon exposure, from mixing into the photosensitive layer and thereby enables the exposure in the air (column 131, lines 56-61). Polyvinyl alcohol is preferably used as main component because most advantageous results can be given to the fundamental properties as oxygen shutting out property and development removability (column 132, lines 8-12).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to use polyvinyl alcohol as main component for the protective layer of modified Aoshima, as disclosed by Kunita et al., in order to take advantage of the oxygen blocking properties and the developer removability of the polyvinyl alcohol (Kunita, column 132, lines 8-12).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 10, 13-14, 16-24 have been considered but are moot in view of the new grounds of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anca Eoff whose telephone number is 571-272-9810.

The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795